## **SIEMENS**

## **Data sheet**

6ES7136-6BA01-0CA0



SIMATIC DP, electronic module for ET 200SP, F-DI 8x 24 V DC HF, 15 mm width, up to PLe (ISO 13849-1)/ SIL3 (IEC 61508)

Figure similar

General information	
Product type designation	F-DI 8x24VDC HF
Firmware version	
<ul> <li>FW update possible</li> </ul>	Yes
usable BaseUnits	BU type A0
Color code for module-specific color identification plate	CC01
Product function	
● I&M data	Yes; I&M0 to I&M3
Engineering with	
<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	GSDML V2.35
CiR - Configuration in RUN	
Reparameterization possible in RUN	No
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
power supply according to NEC Class 2 required	No
Input current	
Current consumption, max.	40 mA; without load
Encoder supply	
Number of outputs	8
24 V encoder supply	
• 24 V	Yes; min. L+ (-1.5 V)
<ul> <li>Short-circuit protection</li> </ul>	Yes; Electronic (response threshold 0.7 A to 1.8 A)
<ul> <li>Output current per channel, max.</li> </ul>	300 mA
Output current per module, max.	800 mA; Total current of all encoders
Power loss	
Power loss, typ.	2 W
Address area	
Address space per module	
<ul><li>Inputs</li></ul>	7 byte; S7-300/400F CPU, 6 byte
Outputs	5 byte; S7-300/400F CPU, 4 byte
Hardware configuration	
Automatic encoding	Yes
<ul> <li>Electronic coding element type F</li> </ul>	Yes
Digital inputs	

No. 1. China di	
Number of digital inputs	8
Source/sink input	Yes; P-reading
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Input voltage	
Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+15 to +30 V
Input current	10.00 00 0
• for signal "1", typ.	3.7 mA
Input delay (for rated value of input voltage)	O.F HIM
for standard inputs	
— parameterizable	Yes
— at "0" to "1", min.	0.4 ms
— at "0" to "1", max.	20 ms
— at "1" to "0", min.	0.4 ms
— at "1" to "0", max.	20 ms
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for technological functions	No
— parameterizable	No
Cable length	1 000 m
• shielded, max.	1 000 m
• unshielded, max.	500 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Diagnostic alarm	Yes
Hardware interrupt	No
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
<ul> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green PWR LED
<ul> <li>Channel status display</li> </ul>	Yes; green LED
<ul> <li>for channel diagnostics</li> </ul>	Yes; red LED
<ul> <li>for module diagnostics</li> </ul>	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
between the channels	No
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
<ul> <li>between the channels and the power supply of the electronics</li> </ul>	No
Isolation	
Isolation Isolation tested with	707 V DC (type test)
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Isolation tested with Standards, approvals, certificates	
Isolation tested with Standards, approvals, certificates Suitable for safety functions	707 V DC (type test) Yes
Isolation tested with Standards, approvals, certificates Suitable for safety functions Highest safety class achievable in safety mode	Yes
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1	Yes PLe
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1	Yes PLe Cat. 4
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508	Yes PLe Cat. 4 SIL 3
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and repairs	Yes  PLe Cat. 4 SIL 3 sir time of 100 hours)
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and reparation of the service with SIL3	Yes  PLe Cat. 4 SIL 3 air time of 100 hours) < 2.00E-05
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and repair of the suitable of the service with SIL3  — High demand/continuous mode: PFH in accordance with SIL3	Yes  PLe Cat. 4 SIL 3 sir time of 100 hours)
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and repair of the service with SIL3  — High demand/continuous mode: PFH in accordance with SIL3  Ambient conditions	Yes  PLe Cat. 4 SIL 3 air time of 100 hours) < 2.00E-05
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and repair of the service with SIL3  — High demand/continuous mode: PFH in accordance with SIL3  Ambient conditions  Ambient temperature during operation	Yes  PLe Cat. 4 SIL 3 air time of 100 hours) < 2.00E-05 < 1.00E-09 1/h
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and repair of the service with SIL3  — Low demand mode: PFDavg in accordance with SIL3  — High demand/continuous mode: PFH in accordance with SIL3  Ambient conditions  Ambient temperature during operation  • horizontal installation, min.	Yes  PLe Cat. 4 SIL 3 sir time of 100 hours) < 2.00E-05 < 1.00E-09 1/h
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and reparation accordance with SIL3  — High demand/continuous mode: PFH in accordance with SIL3  Ambient conditions  Ambient temperature during operation  • horizontal installation, min.  • horizontal installation, max.	Yes  PLe Cat. 4 SIL 3 sir time of 100 hours) < 2.00E-05 < 1.00E-09 1/h  0 °C 60 °C
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and reparation accordance with SIL3  — High demand/continuous mode: PFH in accordance with SIL3  Ambient conditions  Ambient temperature during operation  • horizontal installation, min.  • horizontal installation, max.  • vertical installation, min.	Yes  PLe Cat. 4 SIL 3 sir time of 100 hours) < 2.00E-05 < 1.00E-09 1/h  0 °C 60 °C 0 °C
Isolation tested with  Standards, approvals, certificates  Suitable for safety functions  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • Category according to ISO 13849-1  • SIL acc. to IEC 61508  Probability of failure (for service life of 20 years and reparation accordance with SIL3  — High demand/continuous mode: PFH in accordance with SIL3  Ambient conditions  Ambient temperature during operation  • horizontal installation, min.  • horizontal installation, max.	Yes  PLe Cat. 4 SIL 3 sir time of 100 hours) < 2.00E-05 < 1.00E-09 1/h  0 °C 60 °C

• Installation altitude above sea level, max.	4 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	29 g
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